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OUR MANUFACTURES IN THE MARKETS OF THE WORLD.

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EXPORTATION of manufactures forms the subject of one of the most interesting chapters in the wonderful story of the development of American production and commerce. The growth of our general exports from seventy million dollars in 1800 to fourteen hundred millions in 1900, is sufficient to excite the surprise and admiration of the observing world and to justify the pride of the American citizen; but the expansion of our exports of manufactures from two millions in 1800 to four hundred and thirty-three millions in 1900 seems a still greater commercial triumph, especially when we find that this growth occurs largely in European markets.

Until recently, we have had no definite information regarding the distribution of our exported manufactures. We have known, in a general way, that large purchases of certain manufactured articles were going to certain European countries; but it is only as the results of recent and careful analyses that we have learned that half of the manufactures exported by this young and newly developed country go to that old and well-developed section of the world, where manufacturing is the chief industry, Europe. But this is true. Of the $400,000,000 worth of manufactures exported last year, practically $200,000,000 went to Europe; of the nearly three billion dollars' worth exported in the last decade, more than a billion and a half dollars' worth was sent to European countries.

Even more astonishing, if possible, is the fact that one-fourth of the exports of manufactures go to that great manufacturing country, the United Kingdom, and that fully one-half of the total goes to British territory. Of the $400,000,000 worth of manufactures exported last year $100,000,000 worth went to the United Kingdom, and another $100,000,000 worth to her colonial possessions.

Considering the distribution by grand divisions and the relation of manufactures to our total exports to these divisions, it may be said, still speaking in round terms, that of the $400,000,000 worth of manufactures exported last year, $200,000,000 or one-half of the total, went to Europe; $100,000,000, or one-fourth of the total, to North America; $43,000,000, or about eleven per cent. of the total, to Asia; $27,000,000, or about seven per cent. of the total, to Oceania; $23,000,000, or about six per cent. of the total, to South America; and $11,000,000, or nearly three per cent., to Africa. Manufactures formed practically twenty per cent. of the total exports to Europe, thirty-three per cent. of those to Africa, fifty-two per cent. of those to North America, sixty-two per cent. of those to South America, sixty-eight per cent. of those to Asia, and eighty per cent. of those to Oceania. To Europe the exports of manufactures from the United States have grown from $76,000,000 in 1892 to practically $200,000,000 in 1902; and to North America, from $33,000,000 in 1892 to $100,000,000 in 1902; to Asia they have increased in the same time from $15,000,000 to $43,000,000; to Oceania, from $11,000,000 to $27,000,000; to South America, from $17,000,000 to $23,000,000, and to Africa from $4,000,000 to $11,000,000.

The share which manufactures form of the total exports has steadily increased while our general exports have been so rapidly growing. The total exports have doubled since 1879, but those of manufactures have practically quadrupled meantime. Products of agriculture have of course always formed the largest share of our exports. In 1880, they formed eighty-five per cent. of the total exports, and manufactures formed but twelve per cent. of the total. In 1900, agricultural products formed but sixty-one per cent. of the total, while manufactures had so increased that they formed thirty-one per cent. of the total. The exportation of agricultural products has increased less than forty per cent. since 1880, while that of manufactures has increased three hundred per cent. in that time. The actual increase in the exportation of agricultural products from 1880 to 1901, the year of the largest exports of agricultural products, was but $258,000,000; while the increase in the exports of manufactures in that same period was $308,000,000. Thus, in the past twenty years, manufactures have not only outrun agricultural products in the percentage of increase, but in the actual increase in the number of dollars' worth exported. In 1880 the agricultural exports were $686,000,000, and those of manufactures, $102,000,000; in 1902 those of agriculture were $851,000,000, and those of manufactures $403,000,000. Thus, comparing 1902 with 1880, the gain in agricultural exports was $165,000,000, and in exports of manufactures $301,000,000.

Still another evidence of the remarkable growth in exports of manufactures is found by a comparison of the growth of exports with that of production. The Census reports show that the production of manufactures has grown from one billion dollars, still speaking in round terms, in 1850 to four billions in 1870, five billions in 1880, nine billions in 1890, and thirteen billions in 1900. This is a rapid growth, but the percentage of growth in exportation of manufactures is even larger than that of production in that period. The exportation of manufactures in 1850 amounted to only $17,000,000, and in 1900 was $433,000,000, or about twenty-five times as much as in 1850; while the production of manufactures was only thirteen times as much in 1900 as in 1850.

There is one other opportunity to measure the growth of our progress in manufacturing, and that is to compare our increase in production with that of other great manufacturing nations. The four great manufacturing nations of the world are the United States, Great Britain, Germany and France. While the other nations do not take a census of manufacturing, as does the United States, there are certain methods by which their production may be closely estimated. The late Mr. Mulhall made careful estimates of the value of the manufactures of these four nations, and they show that the growth of the United States has been much more rapid than that of any of the others, and that the United States in the short period from 1860 to 1888, passed from the foot of the list to its head. He estimated that the value of the manufactures of these four countries stood in 1860, as follows: United States, $1,907,000,000; Germany, $1,995,000,000; France, $2,092,000,000, and the United Kingdom, $2,808,000,000. Thus, the United States was then at the bottom of the list.

In 1888 his figures stood: France, $2,360,000,000; Germany, $2,837,000,000; the United Kingdom, $3,990,000,000; and the United States, $7,022,000,000. Thus, the United States, in the short period from 1860 to 1888, passed from the bottom to the top of the list of the world's greatest manufacturing countries. The period from 1888 to 1894 gave the United States, however, much greater predominance, Mr. Mulhall's figures for that year being: France, $2,900,000,000; Germany, $3,357,000,000; the United Kingdom, $4,263,000,000; and the United States $9,498,000,000. The actual increase in the value of manufactures produced in these four countries from 1860 to 1894 was, according to these figures, France $808,000,000, Germany, $1,362,000,000, United Kingdom $1,455,000,000, United States $7,591,000,000.

Thus, if we compare the growth of production of manufactures in the United States with that in other great manufacturing countries of the world, we find that the United States has far surpassed them; if we compare exportation of manufactures with total exportation, or with agricultural exportation alone, we find that the increase in manufactures has been more rapid than in any other class, and, if we compare exportation of manufactures with production of manufactures, we also find that exportation has made greater development than production.

The causes of this growth in production and exportation are not difficult to find. In the first half of the last century, the United States was accumulating population and area, and learning the productive capacity of its soil and climate, the capacity of its varied population for diverse occupations and discovering its limitless possibilities of production. In the next quarter of a century, it occupied itself in building railroads, which opened up its great productive interior and showed that its wealth was not only in the productive soil but in the great mass of minerals beneath the surface. In the closing quarter of the century, its people learned the art of bringing products of the mine and forest and field together for manufacturing. During the century twenty million people, most of them industrious and orderly, came from other countries to make homes in the United States and aid in the development of its industries. In 1850, we had but 9,000 miles of railroad; in 1875, we had 75,000 miles;

and in 1902, we had 200,000 miles, with which to assemble the cotton of the South, the wool of the West, the timber of the North, the iron and copper of the Northwest, and the coal of the great Central section. The cotton product increased from a little over two million bales in 1850 to nearly four millions in 1875, and eleven millions in 1902. The wool production increased from 52,000,000 pounds in 1850, to 181,000,000 in 1875, and 316,000,000 in 1902. The copper product grew from 650 tons in 1850 to 18,000 in 1875, and 268,000 in 1902. The pig-iron production developed from a half million tons in 1850 to about two millions in 1875, and seventeen millions in 1902. Coal, which furnished the power for assembling these great articles, and heat and power for manufacturing them after they were assembled, grew in production from 3,000,000 tons in 1850 to 46,000,000 in 1875, and 261,000,000 in 1902. Meantime, the population grew from 23,000,000 in 1850 to 44,000,000 in 1875, and 79,000,000 in 1902. Thus, population in 1902 is three and a half times as much as in 1850, while the production of the great articles for manufacturing is in most cases from five to fifty times as great, production of manufactures thirteen times as great, and the facilities of transportation twenty times as great. Then, at the last moment, when we fancied that the summit in our productive powers had been reached, a new element in production and transportation made its appearance, in the form of electricity, which, generated by streams which were formerly considered valueless, and transported on a simple piece of wire, furnishes power and heat and light to aid further in the development we had already made in that century of wonderful growth.

Meantime, the facilities of distribution to other parts of the world had also multiplied. Steam took the place of sail; iron, and then steel, took the place of wood; and the screw propeller took the place of the paddle-wheel, in ocean transportation. The thousand-ton steamer has been replaced by vessels of eighteen or twenty thousand tons capacity. The railroad-car will carry as much as twenty teams of horses could haul, and the great ocean steamer will transport as much as four hundred railway-cars can carry. At the same time, facilities of communication have so developed that the manufacturer can communicate across the continent or under the ocean, or even around the world, in a moment of time, and not only communicate but transmit or receive remittances of money in the same instantaneous fashion. Meantime, our supply of circulating medium with which to perform these great business transactions has equally increased, the money in circulation in the United States having grown from $278,000,000 in 1850 to $754,000,000 in 1875, and $2,374,000,000 in 1903, while the increase in banking facilities has multiplied many times the business power of the dollar.

Now let us see what are the principal articles which form this great and rapidly growing mass of exports. Two questions which naturally present themselves to the mind are, first, whether they are of a class which the world will continue to require as a part of its daily life, and, second, whether they are composed of a class of material of which we have plentiful supplies. To both of these questions the response is affirmative. The exports of last year were, presenting them in the order of magnitude: manufactures of iron and steel, about $100,000,000, or one-fourth of the grand total; mineral oil, $66,000,000; copper manufactures, $41,000,000; cotton manufactures, $32,000,000; leather and its manufactures, $29,000,000; agricultural implements, $16,000,000; chemicals, $12,000,000; wood manufactures, $11,000,000; cars and carriages, $10,000,000, and paraffin, $8,000,000. These ten articles or groups of articles made up more than three-fourths of our total manufactures exported; and every one of them is of a class for which the world's demands are permanent and constantly increasing.

Let us run over the list of these articles, keeping in mind the question of their relations to the daily requirements of man. They are, in the order of their magnitude as an export, iron and steel, mineral oil, copper, cotton goods, leather and its manufactures, agricultural implements, chemicals, wood manufactures, cars and carriages, and paraffin. All of these the world must have for its daily life. It can get along, in case of financial stringency, without silks and satins and laces and wines, and perhaps even tobacco; but all of those articles which form our chief exports of manufactures it must have. Therefore, we may expect a permanent demand for them; and if we can furnish them as cheaply as anybody else, or a little more cheaply than others, we may expect that the demand upon us will continue. An analysis of our power of production of these articles, as compared with that of other parts of the world, shows that we can produce them more readily and at less cost than any of our rivals. Take iron and steel, the greatest of this class of great exports. We now produce more iron ore, by far, than any other country, and more pig-iron. The four principal pig-iron producing countries of the world are the United Kingdom, Germany, Belgium, and the United States. A few years ago, the United States and Germany were about equal producers of pig-iron, and the United Kingdom exceeded us by far in the production of that article. To-day, with our greatly increased area of iron production and greatly increased facility for its manufacture, we are not only manufacturing more pig-iron than Germany or the United Kingdom, but actually more than Germany, the United Kingdom, and Belgium combined. Mineral oil is the next in the list of our great exports of manufactures, and of this we produce more in the refined form, fit for lighting, than any other country. A few years ago, the United States, Spain, and one or two other countries divided in about equal proportions the world's production of copper; now we produce as much as all the other countries of the world combined. Cotton is the world's largest requirement for clothing, and the proportion which it forms of the world's necessary stock of clothing is constantly increasing; and the United States produces three-fourths of the cotton of the world. Of leather, our facilities of production are equal to those of any part of the world, though we are still compelled to import a part of the raw material from which it is manufactured. Our supply of suitable woods for the manufacture of the agricultural implements, cars and carriages, and other manufactures of wood, which form important factors in our exports, are sufficient to justify the belief that we shall continue to meet the demands of other countries, and that there is little fear from rivalry in these lines.

It must not be supposed, however, because prosaic iron and steel manufactures and those of cotton or copper and mineral oil are the chief factors in our exportation of manufactures, that we are unsuccessful in the finer grades. Such high grade manufactures as watches, clocks, sewing-machines, cash-registers, electrical machinery, telegraph instruments, telephones, typewriters, scientific instruments, and many other manufactures of this character, are sent out in great quantities, and find a ready market in the most distant parts of the globe. It seems rather curious to find the people of South Africa purchasing our typewriters and cash-registers, with a calm confidence that they can be relied upon for durability and accuracy in such remote places that they cannot be returned to the maker for adjustment or turned over to skilled workmen for repairs. Our sewing-machines go to India, Asia, and the most remote islands of the Pacific, and are accepted with confidence that they will perform the work to which they are assigned. Our telegraph instruments click in the wilds of Siberia, and our telephones transmit the "hello!" of the Chinaman, or the East Indian, or the Egyptian, as readily and faithfully as though they were being operated within the shadow of the factory where every feature of their construction is understood and the most approved machinery for their repair is at hand. The exportation of scientific instruments, including those for telegraphic and telephonic purposes, has grown from a little more than $1,000,000 in 1892 to $7,000,000 in 1901; sewing-machines, from $2,000,000 in 1895 to $4,500,000 in 1900; locomotives, from less than $2,000,000 in 1892 to $5,500,000 in 1900; cash-registers, from $2,000,000 in 1898 to $5,500,000 in 1902; and typewriters, from $1,500,000 in 1897 to $3,500,000 in 1902. The value of scientific instruments, typewriters, engines, cash-registers, sewing-machines, shoe-machinery, and electrical and metal-working machinery exported in 1900 amounted to over $32,000,000. More than $30,000,000 worth of clocks and watches have been exported in the last twenty years, and they have gone to literally every part of the world—to Europe, to Asia, to Africa, to Oceania, to Central and South America, and to the most remote parts of the continents and islands.

But, there are still other worlds to conquer. While we have more than quadrupled our exportation of manufactures since 1880 and outgrown all other nations of the world in their production during that same period, we are still supplying but ten per cent. of the manufactures which enter into the international commerce of the world. The value of manufactures exported from all the countries of production, and in turn imported by some other country or countries, amounts to about $4,000,000,000 annually, the share which we supply of this grand total being only about $400,000,000 annually. Of this $4,000,000,000 worth of manufactures which enter into international commerce, the United Kingdom furnishes about one-fourth; Germany, one-fifth; France, one-eighth; and the United States, one-tenth. About three-fourths of this great mass of manufactures which enter into international commerce are composed of iron and steel, copper and cotton, of which we are the world's largest producers, and for the manufacture of which we have facilities at least equal to those of any other country; while in other classes of manufactures, our productive powers are developing at a rate which promises that we may with confidence enter the field of international competition.

The manufacturers of the United States have a fine field at home, and their first duty to themselves and to the people of the country is to take care of it, and to supply its wants from their own workshops, as far as possible. And they are doing this. Manufactures formed seventy per cent. of the imports in 1820, and sixty per cent. in 1860; but by 1900 the manufacturers of the country had so proven their ability to supply home demands that manufactures formed only thirty-seven per cent of the total imports of that year. The value of the manufactures consumed in the United States amounts to about $8,000,000,000 a year, and of this American manufacturers furnish ninety-five and foreign manufacturers about five per cent.; while the amount which American manufacturers export just about equals that which foreign manufacturers send into this country. The value of the total production of manufactures in the United States, after excluding the duplications necessarily included in the Census reports, and omitting the products of the slaughtering and canning industries which it classes with manufactures, amounts to a little more than $7,500,000,000, and the value of all manufactures imported is nearly $400,000,000, making the value of the manufactures consumed in the United States about $8,000,000,000, or twice as much as that of the entire international commerce of the world in manufactured products. It is not surprising, therefore, that the manufacturers are desirous of giving their first attention to the home field, and that the foreign market is with them a matter of minor consideration. But the fact that they are now able to supply practically all of that great market and build up an export trade from $158,000,000 in 1892 to $403,000,000 in 1902, shows that they still have great possibilities before them in that field, after taking care of the home market.

O. P. Austin.